ELSEVIER

Volume 102, Numbers 1–3, 15 May 2000

Journal of
Materials
Processing
Technology

www.elsevier.com/locate/jmatprotec

Contents

Finite element analysis of the hydromechanical deep-drawing process of tapered rectangular boxes 1
S.H. Zhang, K.B. Nielsen, J. Danckert, D.C. Kang, L.H. Lang

Plasma spray coating of fly ash pre-mixed with aluminium powder deposited on metal substrates 9
S.C. Mishra, K.C. Rout, P.V.A. Padmanabhan, B. Mills

Warping evolution of injection-molded ceramics. 14
W.J. Tseng

The prediction of central burst defects in extrusion and wire drawing 19
D.-C. Ko, B.-M. Kim

Machining of an aluminum/SiC composite using diamond inserts. 25
C.J.E. Andrewes, H.-Y. Feng, W.M. Lau

Finite element simulation of a new deformation type occurring in changing-channel extrusion. 30
L. Zuyan, L. Gang, Z.R. Wang

Modeling of solidification in twin-roll strip casting. 33
C.A. Santos, J.A. Spim Jr. and A. Garcia

Parametric analysis of the pulsed Nd:YAG laser seam-welding process 40
Y.-f. Tzeng

Optimization of the electrical discharge machining process based on the Taguchi method with fuzzy logics 48
J.L. Lin, K.S. Wang, B.H. Yan, Y.S. Tarng

Uniaxial tensile behaviour of ZM-21 magnesium alloy at room temperature 56
R. Narayanasamy, S. Sathiyanarayanan, R. Ponalagusamy

A three-dimensional analysis of the universal beam tandem rolling process. Part I. Deformation analysis 59
X.G. Jin, Y.L. Liu, J.C. Lian, R.H. Wagoner

A three-dimensional analysis of the universal beam tandem rolling process. Part II: Stress analysis 65
X.G. Jin, Y.L. Liu, J.C. Lian, R.H. Wagoner

Solution of the equations of rigid–plastic FE analysis by shifted incomplete Cholesky factorisation and the conjugate gradient method in metal forming processes 70
Z.Y. Jiang, W.P. Hu, P.F. Thomson, Y.C. Lam

Finite element analysis of effects of parameters on in-plane bending process of strip metal 78
X. Feijun, Y. He, X. Hongsheng

Extrapolative prediction of the hot strength of austenitic steels with a combined constitutive and ANN model. 84
L.X. Kong, P.D. Hodgson, D.C. Collinson

The publisher encourages the submission of articles in electronic form thus saving time and avoiding rekeying errors. A leaflet describing our requirements is available from the publisher upon request.

CONTENTS direct

This journal is part of **ContentsDirect**, the ***free*** alerting service which sends tables of contents by e-mail for Elsevier Science books and journals. You can register for **ContentsDirect** online at: **www.elsevier.nl/locate/contentsdirect**

Elsevier Science S.A.

Blind-hole drilling of Al_2O_3/6061Al composite using rotary electro-discharge machining 90
C.C. Wang, B.H. Yan

Elasto-plastic solutions for spring-back angle of pipe bending using local induction heating 103
Z. Hu

Electromagnetic confinement and shaping for a plate-form part 109
J. Shen, J. Li, H. Fu

The effects of initial burnishing parameters on non-ferrous components 115
A.M. Hassan, A.M. Maqableh

The design of an ultrasonic polishing tool by the transfer-matrix method 122
Z.N. Guo, T.C. Lee, T.M. Yue, W.S. Lau

Computer simulation of the deep extrusion of a thin-walled cup using the thermo-mechanically coupled elasto-plastic FEM. . 128
Z. Hu, L. Zhu, B. Wang, Z. Liu, Y. Miao, P. Xie, S. Gu, W. Sheng

An experimental study of the lubrication behavior of A5 glass lubricant by means of the ring compression test 138
L.X. Li, D.S. Peng, J.A. Liu, Z.Q. Liu, Y. Jiang

Visco-plastic constitutive models of steel at high temperature 143
A.E. Huespe, A. Cardona, N. Nigro, V. Fachinotti

Modeling and optimization of the sequential brakeforming processes 153
M.Y. Wang, S. Shabeer

CNC incremental sheet forming of an axially symmetric specimen and the locus of optimization 164
K. Dai, Z.R. Wang, Y. Fang

The development of integral hydro-bulge forming (IHBF) process and its numerical simulation. 168
Z.R. Wang, K. Dai, S. Yuan, Y. Zeng, X. Zhang

A graphical description of shear stress in the drawing of a thin-wall tube with a conical die 174
K. Dai, Z.R. Wang

Dislocation generation in GaAs crystals grown by the vertical gradient freeze method 179
A.N. Gulluoglu, C.T. Tsai

Three-dimensional rigid-plastic finite-element analysis of the isothermal precision forging of a cylindrical housing 188
D. Shan, X. Yi, L. Yan

The co-extrusion of metal-sheathed high-temperature superconductors 193
M.H. Apperley, C.C. Sorrell, A. Crosky

Wear characteristics and mechanisms of a thin edge cutting blade 203
K.H. Lau, D. Mei, C.F. Yeung, H.C. Man

An ELID-cutting saw 208
H. Chen, J. Li, J. Spence, J.C.M. Li

Processing and interface stability of SiC fiber reinforced Ti–15V–3Cr matrix composites 215
Y.W. Xun, M.J. Tan, J.T. Zhou

Application of mathematical simulation and the factorial design method to the optimization of the atomization stage in the spray forming of a Cu–6% Zn alloy 221
M.M. Pariona, C. Bolfarini, R.J. dos Santos, C.S. Kiminami

Calculation method of the press force in a round shaped closed-die forging based on similarities to indirect extrusion 230
L. Capan, O. Baran

Influence of aging parameters on the mechanical properties of 6063 aluminium alloy. 234
R.A. Siddiqui, H.A. Abdullah, K.R. Al-Belushi

Stretch bending of aluminium extrusions for car bumpers 241
A.H. Clausen, O.S. Hopperstad, M. Langseth

Assessment of influence of some process parameters on sheet metal blanking 249
S.K. Maiti, A.A. Ambekar, U.P. Singh, P.P. Date, K. Narasimhan

Finite element modeling of sheet-metal blanking operations with experimental verification 257
R. Hambli, A. Potiron

Multi-objective optimization of sequential brakeforming processes 266
S. Shabeer, M. Yu Wang

Author Index 277
Subject Index 279